

Office Action Summary

Application No.

09 885.009

Applicant(s)

NAKAMURA ET AL

Examiner

Jason Phinney

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a) in no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b)

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,6,8,10,12,13,15,17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6,8,10,12,13,15,17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a)
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) (Paper No.s _____)
- 4) ☐ Interview Summary (PTO-413) (Paper No.s _____)
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other _____

DETAILED ACTION

Response to Amendment

- 1 The Amendment, filed on 4/24/03, has been entered and acknowledged by the Examiner. Cancellation of claims 2, 4, 7, 9, 11, 14, 16, 18, and 21 has been entered.

Claim Rejections - 35 USC § 102

- 2 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

3. Claims 1, 3, 6, 8, 10, 13, 15, 17, and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 5,739,629 to Yun.

Regarding Claim 1, Yun discloses an electron gun comprised of a cathode that has an electron emission surface (Figure 1, #11) and a first grid (#12) that has a beam hole (see hole in center of grid #12), wherein the electron emission surface and the beam hole are arranged opposite to each other and the area opposite the beam hole within the electron emission surface is in closest proximity to the first grid (See Figure 1), wherein the area opposite the beam hole is a center area of the electron emission surface and is a convex surface (#11), and wherein an electron beam emitted from the emission surface has a converging trajectory (see Figure 2).

Regarding Claim 3, a press process is a method of manufacture, since this claim is directed to the structure of the convex surface the method of manufacture is not germane to the issue of patentability. Yun discloses the convex surface (Figure 1, #11).

Regarding Claim 6, Yun further discloses that the convex surface should be a paraboloid (Figure 1, #11).

Regarding Claim 8, Yun discloses a cathode ray tube equipped with an electron gun comprised of a cathode that has an electron emission surface (Figure 1, #11) and a first grid (#12) that has a beam hole (see hole in center of grid #12), wherein the electron emission surface and the beam hole are arranged opposite to each other and the area opposite the beam hole within the electron emission surface is in closest proximity to the first grid (See Figure 1), wherein the area opposite the beam hole is a center area of the electron emission surface and is a convex surface (#11), and wherein an electron beam emitted from the emission surface has a converging trajectory (see Figure 2).

Regarding Claim 10, a press process is a method of manufacture, since this claim is directed to the structure of the convex surface the method of manufacture is not germane to the issue of patentability. Yun discloses the convex surface (Figure 1, #11).

Regarding Claim 13, Yun further discloses that the convex surface should be a paraboloid (Figure 1, #11).

Regarding Claim 15, Yun discloses an image display device with a cathode ray tube equipped with an electron gun comprised of a cathode that has an electron emission surface (Figure 1, #11) and a first grid (#12) that has a beam hole (see hole in center of grid #12), wherein the electron emission surface and the beam hole are arranged opposite to each other and the area opposite the beam hole within the electron emission surface is in closest proximity to the first grid (See Figure 1), wherein the area opposite the beam hole is a center area of the electron

emission surface and is a convex surface (#11), and wherein an electron beam emitted from the emission surface has a converging trajectory (see Figure 2).

Regarding Claim 17, a press process is a method of manufacture, since this claim is directed to the structure of the convex surface the method of manufacture is not germane to the issue of patentability. Yun discloses the convex surface (Figure 1, #11).

Regarding Claim 20, Yun further discloses that the convex surface should be a paraboloid (Figure 1, #11).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 12, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,739,629 to Yun in view of U.S. Patent No. 2,735,032 to Bradley.

Yun discloses the electron gun, cathode ray tube, and image display device claimed in claims 1, 8, and 15 respectively. Yun fails to exemplify that the convex surface should be a curved surface with different curvature depending on the direction.

Bradley teaches that a convex surface of a cathode for an electron gun may be a curved surface with different curvature depending on the direction (see Figure 4, #101 and Column 5, Lines 37-40) in order to adjust the emissive properties of the cathode.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to form the convex surface of Yun in the manner taught by Bradley in order to adjust the emissive properties of the cathode.

Response to Arguments

6 Applicant's arguments with respect to claim 1-21 have been considered but are moot in view of the new ground(s) of rejection

Conclusion

7 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit 2879

8 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Phinney whose telephone number is (703) 305-3999. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JP

June 19, 2003